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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Alain Clouet

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5398

7590

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Thomas Langer  
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EXAMINER

JOHNSTONE, ADRIENNE C

ART UNIT

PAPER NUMBER

1791

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/591,928	<b>Applicant(s)</b> CLOUET ET AL.	
	<b>Examiner</b> Adrienne C. Johnstone	<b>Art Unit</b> 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 12-21 is/are pending in the application.
- 4a) Of the above claim(s) 10 and 12-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                                                                   |                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                                               | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>20060905</u> . | 6) <input type="checkbox"/> Other: _____                                                |

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election without traverse of Group I, claims 1-9 in the reply filed on May 7, 2010 is acknowledged.

2. Claims 10 and 12-21 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on May 7, 2010.

### *Priority*

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Information Disclosure Statement*

4. The information disclosure statement filed September 5, 2006 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Specifically, the required copy of each of the three foreign patent documents was not received from WIPO as indicated by applicants (see the listing of the items received in the 371 acceptance letter mailed September 12, 2007 and MPEP 1893.03(g)).

5. The information disclosure statement filed on September 5, 2006 does not fully comply with the requirements of 37 CFR 1.98(b) because: see paragraph 4 above. Since the submission appears to be *bona fide*, applicant is given **ONE (1) MONTH** from the date of this notice to supply the above mentioned omissions or corrections in the information disclosure statement. NO

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EXTENSION OF THIS TIME LIMIT MAY BE GRANTED UNDER EITHER 37 CFR 1.136(a) OR (b). Failure to timely comply with this notice will result in the above mentioned information disclosure statement being placed in the application file with the noncomplying information **not** being considered. See 37 CFR 1.97(i).

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1 lines 9-10 applicants should clarify the meaning of “normal use” by changing “in normal use (i.e. tire inflated to its utilization pressure)” to -- when the tire is inflated to its utilization pressure in the absence of a puncture in the tire -- (specification paragraph 0015).

In claim 1 line 14 applicants should change the vague “corresponding to” language to -- equal to -- .

In claim 9 line 5, applicants should clarify the meaning of “transverse direction” by changing “the transverse direction” to -- the direction of the axis of rotation of the tire and rim assembly -- (specification paragraph 0043).

It is noted that the claims require a “tubeless” tire, which one of ordinary skill in the art would understand to be a pneumatic tire designed for use without a separate removable inner tube pressurized by the tire inflation; the recitation of a “tubeless” tire therefore does not exclude the claim 2 embodiment wherein the recited body is a closed torus having at least one opening for communication between the inner and outer cavities because, as required in claim 1, this tube is not

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subject to any inflation force (not pressurized by the tire inflation) when the tire is inflated to its utilization pressure in the absence of a puncture in the tire.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Slezak (2,665,731) in view of Palmer (493,220) and King (2,754,876) or, alternatively, Slezak (2,665,732) in view of Palmer (493,220) and King (2,754,876).

Slezak '731 discloses a tire and rim assembly similar to the claimed tire and rim assembly but wherein the carcass reinforcement in the body is not explicitly disclosed to have a skin of resilient elastomeric material and the two inextensible circumferential reinforcement structures anchoring the carcass reinforcement in the body do not have an internal diameter less than the maximum diameter of the rim (embodiment of Figures 1 and 2, col. 1 line 38 - col. 4 line 30; tire 11 having tread portion

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12 (crown), sidewalls 13, and bead portions 14 seated on flanges (edges) of rim 15; diaphragm 10 (toric body) defining inner cavity 19 and outer cavity 20 communicating through aperture 29, comprising plies of bias-laid material similar to tire casing (carcass) material which are anchored to wire beads 17 in order to provide strength and flexibility to the diaphragm 10 (inextensible circumferential reinforcement structures anchoring the carcass reinforcement in the body), the wire beads 17 seated against bead portion shoulders 18; in the presence of a puncture removing the inflation in outer cavity 20 as shown in Figure 2, the diaphragm 10 deforms under the action of the inflation still in inner cavity 19 to block the puncture); however, it is well known to provide plies of tire casing material (carcass plies) with a rubber skin in order to fix in place the reinforcement and protect it from abrasion, as evidenced for example by Palmer (p. 1 line 8 - p. 2 line 107), and King teaches to eliminate the need for special molding of the tire while maintaining proper positioning of the body in such tire and rim assemblies by eliminating the bead portion shoulders and moving the two inextensible circumferential reinforcement structures anchoring the carcass reinforcement in the body down to the rim adjacent the tire bead portions and below the rim flanges, optionally providing a connecting rubber portion making the body into a closed torus (Figures 1 and 2, col. 1 line 17 - col. 4 line 25). It would therefore have been obvious to one of ordinary skill in the art to provide the toric body in the above tire and rim assembly with a rubber skin in order to fix in place the reinforcement and protect it from abrasion and to eliminate the need for special molding of the tire while maintaining proper positioning of the body in the above tire and rim assembly by eliminating the bead portion shoulders and moving the two inextensible circumferential reinforcement structures anchoring the carcass reinforcement in the body down to the rim adjacent the tire bead portions and below the rim flanges, optionally providing a connecting rubber portion making the body into a closed torus.

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Alternatively, Slezak '732 discloses a tire and rim assembly similar to the claimed tire and rim assembly but wherein the carcass reinforcement in the body is not explicitly disclosed to have a skin of resilient elastomeric material and the two inextensible circumferential reinforcement structures anchoring the carcass reinforcement in the body do not have an internal diameter less than the maximum diameter of the rim (embodiments of Figures 1-7, col. 1 line 1 - col. 5 line 51: for example in the embodiment of Figures 1 and 2, tire 21 having tread portion 22 (crown), sidewalls 23, and bead portions 24 seated on flanges (edges) of rim 25; diaphragm 20 (toric body) defining inner cavity 29 and outer cavity 30 communicating through aperture 33, comprising plies of bias-laid material similar to tire casing (carcass) material which are anchored to wire beads 27 in order to provide strength and flexibility to the diaphragm 20 (inextensible circumferential reinforcement structures anchoring the carcass reinforcement in the body), the wire beads 27 seated against bead portion shoulders 28; in the presence of a puncture removing the inflation in outer cavity 30 as shown in Figure 2, the diaphragm 20 deforms under the action of the inflation still in inner cavity 29 to block the puncture); however, it is well known to provide plies of tire casing material (carcass plies) with a rubber skin in order to fix in place the reinforcement and protect it from abrasion, as evidenced for example by Palmer (p. 1 line 8 - p. 2 line 107), and King teaches to eliminate the need for special molding of the tire while maintaining proper positioning of the body in such tire and rim assemblies by eliminating the bead portion shoulders and moving the two inextensible circumferential reinforcement structures anchoring the carcass reinforcement in the body down to the rim adjacent the tire bead portions and below the rim flanges, optionally providing a connecting rubber portion making the body into a closed torus (Figures 1 and 2, col. 1 line 17 - col. 4 line 25). It would therefore have been obvious to one of ordinary skill in the art to provide the toric body in the above tire and rim assembly with a rubber skin in order to fix in place the reinforcement and protect it

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from abrasion and to eliminate the need for special molding of the tire while maintaining proper positioning of the body in the above tire and rim assembly by eliminating the bead portion shoulders and moving the two inextensible circumferential reinforcement structures anchoring the carcass reinforcement in the body down to the rim adjacent the tire bead portions and below the rim flanges, optionally providing a connecting rubber portion making the body into a closed torus.

11. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Slezak (2,665,731) in view of Palmer (493,220) and King (2,754,876) or, alternatively, Slezak (2,665,732) in view of Palmer (493,220) and King (2,754,876) as applied to claims 1-3 above, and further in view of Domchick (4,832,102).

Domchick teaches to provide pneumatic tire carcass reinforcement in the form of a plurality of plies of aromatic polyamide cables having a cord angle of 75 to 90 degrees, with the cords of one ply crossing those of adjacent plies when the cord angles are other than 90 degrees, in order to obtain high modulus and breaking strength as well as adequate fatigue resistance (col. 1 line 5 - col. 2 line 21 and col. 4 line 50 - col. 5 line 56). It would therefore have been obvious to one of ordinary skill in the art to provide the carcass reinforcement in the toric body of the above tire and rim assembly in the form of a plurality of plies of aromatic polyamide cables having a cord angle of 75 to less than 90 degrees (90 degree plies would not be bias-laid plies) with the cords of one ply crossing those of adjacent plies in order to further strengthen the diaphragm constituting the toric body.

12. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Slezak (2,665,731) in view of Palmer (493,220) and King (2,754,876) or, alternatively, Slezak (2,665,732) in view of Palmer (493,220) and King (2,754,876) as applied to claims 1-3 above, and further in view of Japanese Patent Application 2002-120526 A.

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JP '526 teaches to provide the crown part of the toric body in such tire and rim assemblies with plural circumferentially oriented waveform cords in order to protect the toric body from damage after the tire is punctured (abstract, Figures 1-3, paragraphs 0006-0007 (determined through oral translation)). It would therefore have been obvious to one of ordinary skill in the art to provide the crown part of the toric body in the above tire and rim assembly with plural circumferentially oriented waveform cords in order to protect the toric body from damage after the tire is punctured.

13. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Slezak (2,665,731) in view of Palmer (493,220) and King (2,754,876) or, alternatively, Slezak (2,665,732) in view of Palmer (493,220) and King (2,754,876) as applied to claims 1-3 above, and further in view of Smith (491,296) and Nonnamaker (3,129,743).

Smith and Nonnamaker both teach to provide the toric body in such a tire and rim assembly with an independent framework to support the toric body in the desired position (Smith annular rings a, p. 1 line 8 - p. 2 line 13; Nonnamaker carrier frame 27, col. 4 line 16 - col. 5 line 11). It would therefore have been obvious to one of ordinary skill in the art to provide the toric body in the above tire and rim assembly with an independent framework to support the toric body in the desired position. As to the volume limitation in claim 8, Slezak '731 and Slezak '732 as well as Smith and Nonnamaker clearly depict the inner cavity volume defined by toric body occupying greater than one third of the maximum cavity volume. As to claim 9, the carrier frame 27 in Nonnamaker comprises a plurality of hoops 28 secured together by annular members 29, 30, and 31 (Figures 3-5).

***Allowable Subject Matter***

14. Favorable consideration would be given to claim 9 with the added limitation that each of the plurality of bows comprises a central part extending in the the direction of the axis of rotation of the

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tire and rim assembly and a rounded part at each of its axial ends to avoid damaging the skin with the ends (specification paragraphs 0042-0043, Figures 1-4).

### ***Conclusion***

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Marocco (3,905,412) discloses a tire and rim assembly similar to the claimed tire and rim assembly but wherein the inner and outer cavities do not intercommunicate. McWherter (2,059,955), Wilson et al. (2,237,245), Hainlen (2,510,974), Koch et al. (3,018,813), German Patent Application 101 64 092 A1, and Japanese Patent Application 5-104916 A all disclose further examples of tire and rim assemblies including a toric body inside the tire that allows intercommunication between inner and outer cavities before the tire is punctured and expansion of the toric body after puncture.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adrienne C. Johnstone whose telephone number is (571) 272-1218. The examiner can normally be reached on Monday-Friday, 1:00PM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Adrienne C. Johnstone  
Primary Examiner  
Art Unit 1791

Adrienne Johnstone

/Adrienne C. Johnstone/

August 5, 2010